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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/569,488

06/23/2006

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8075-1047

3443

466 7590 07/23/2008

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EXAMINER

VU, MINDY D

ART UNIT

PAPER NUMBER

2884

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DELIVERY MODE

07/23/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                      |  |
|------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/569,488 | <b>Applicant(s)</b><br>FUKUDA ET AL. |  |
|                              | <b>Examiner</b><br>MINDY VU          | <b>Art Unit</b><br>2884              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>02/24/06</u> . | 6) <input type="checkbox"/> Other: ____.  |

### **DETAILED ACTION**

This Office Action is in response to Applicant's application filed June 23, 2006.

#### ***Priority***

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

#### ***Specification***

The disclosure is objected to because of the following informalities: the specification should refer to the sole figure instead of Fig. 1\\\\..

Appropriate correction is required.

#### ***Claim Objections***

Claim 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. All the limitations of claim 5 are already in claim 4.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-3 and 10 are rejected under 35 U.S.C. 102(a) as being anticipated by Satonaga et al. (2003, hereafter Satonaga).

With respect to independent Claim 1, Satonaga discloses a scintillator consisting of a crystal of  $\text{Pr}_{1-x}\text{Ce}_x\text{F}_3$  ( $0 < x < 0.5$ ) (page 36, the doping of Ce in  $\text{PrF}_3$  with the described quantities makes it qualify for the recited crystal).

With respect to Claim 2, Satonaga discloses that  $0.03 < x < 0.2$  (page 36).

With respect to Claims 3 and 10, Satonaga discloses said crystal is grown by the micro pulling down method (page 35).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-9 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satonaga et al. (2003, hereafter Satonaga) in view of Hertel et al. (US 2005/0015004).

With respect to Claims 4-5 and 11-12, Satonaga discloses the crystal is used as a scintillator for detection means but omits a light responding means coupled to the scintillator. Hertel discloses each detector includes scintillator crystals and each scintillator crystal is disposed in front of a photomultiplier tube (PMT) is a well known technical feature in imaging assembly (paragraph 0037). Thus, it would have been

obvious to one of ordinary skill in the art at the time of the invention was made to include the radiation detector for acquiring images.

With respect to Claim 6, Hertel discloses an inspecting device is an x-ray CT scanner (paragraph 0016).

With respect to Claim 7, Hertel discloses an inspecting device is PET (paragraph 0035).

With respect to Claim 8, Hertel discloses said PET is one of the recited types (paragraph 0042).

With respect to Claim 9, Hertel discloses the radiation inspecting device is one of the recited types (paragraph 0006).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Juestel et al. (US 2006/0000977) discloses a device for detection of input radiation comprises a sensor with a  $\text{Pr}^{3+}$ -activated scintillator.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINDY VU whose telephone number is (571)272-8539. The examiner can normally be reached on M-F 9am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2884

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mv

/David P. Porta/

Supervisory Patent Examiner, Art Unit 2884